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Janet Campbell, Editor

GENERAL NEWS

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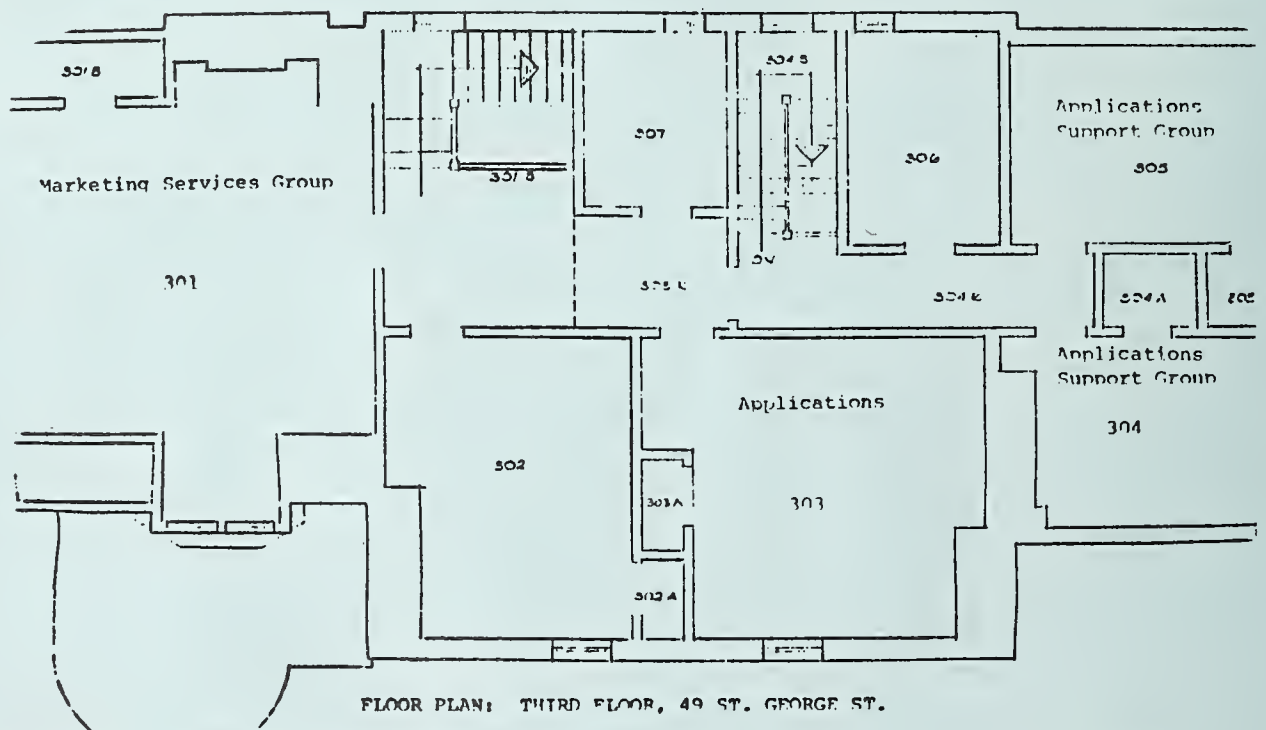
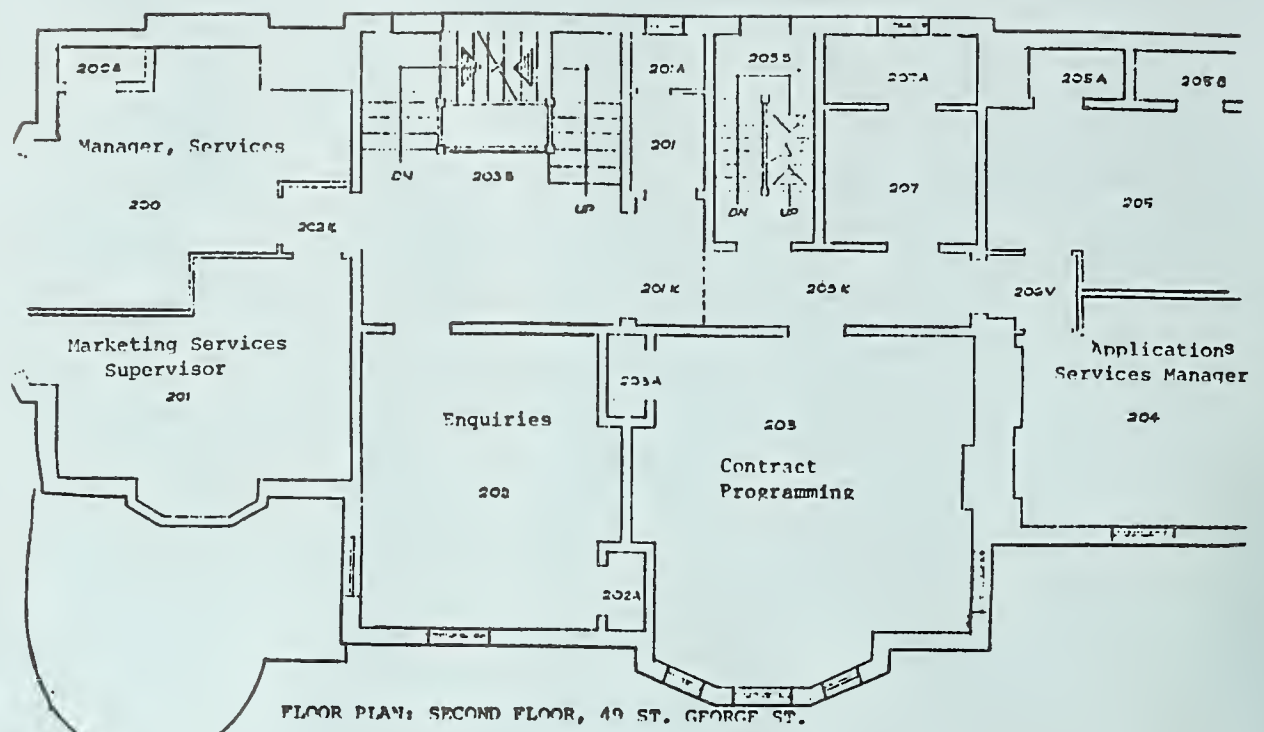
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ATTENTION ALL UTCC USERS

All UTCC users should be aware that Bell Canada will be changing the exchange number for the University of Toronto from 928 to 978. The change-over is scheduled to take place at 2:00 a.m. Saturday, March 20, 1976. Although calls to the old UTCC numbers following the change-over will reach a recording advising of the change of number, users are reminded that they will also have to use the new exchange to dial up ATS, TSO, APL, etc.

Janet Campbell

DECEMBER 75 MINICOMPUTER USERS MEETING

John Potvin from the Division of Medical Computing gave a presentation on interfacing experiments to computers. The talk centered around the computer system used in Medicine.

John described how experiments can be connected to standard interfacing modules housed in standard mounting boxes (crates) that are independent of the computer manufacturer. This is done by using CAMAC, the international instrumentation interfacing standard. CAMAC simplifies the connection problem of joining the CAMAC bus to a computer bus. The connecting device, a branch highway driver, is available from both computer manufacturers and CAMAC manufacturers. The CAMAC portion is well defined and specified so

that many manufacturers produce CAMAC equipment (thus creating a competitive market). As a side benefit, this makes the design and construction of interfacing equipment much easier for the user who has to do it himself. Typical CAMAC hardware for one installation consisting of crate, controller and several interfacing modules costs around \$5,000. The interface to the computer costs about \$2,500.

John Potvin outlined how he was using MULTI PDP-11 processors connected via STAR-RING to a chain of CAMAC crates. He pointed out that such a system was being developed for Zoology. However, the system at Geology, although similar in concept, was purchased as a ready-made unit from GEC Elliott.

The build-it-yourself \$200 CRT terminal was demonstrated. The terminal was put together by Randy Glickman, a zoologist. The terminal has been connected to TSO, APL, ATS, PDP-11's and to CAMAC. For more details about the CT-1024 Terminal write to

SOUTHWEST TECHNICAL PRODUCTS CORPORATION
219 W. RHAPSODY,
SAN ANTONIO, TEXAS 78216
U. S. A.

John Kornatowski
John Rylaarsdam

The following article is reprinted from the Globe and Mail, February 12, 1976, with the permission of its author, Mary Kate Rowan.

UNIVERSITY USES COMPUTER TO SPEED UP TRANSCRIPTS IN BRAILLE

Most Braille books are transcribed by hand from the original print by volunteers, which can take up to a year for each book. The University of Alberta has a computer that can produce a Braille transcript in three to six weeks, depending on the size of the book.

'The technology involved is not difficult,' said Charles Prat, supervisor of computing services at the University of Alberta. 'It's no more involved than printing paycheques by computer. It's just that no one ever thought of it before.'

Researchers have produced only one book so far, a Braille transcript of George Orwell's 1984. It was chosen because the book happened to be available in machine-readable language.

'It's an expensive process,' Mr. Prat said. 'It costs about a dollar a page to produce the first copy of a book. I don't know how much it would cost to produce copies. It would be a lot less but it's still expensive.'

The experiment began about a year ago when the researchers received the computer program - it converts normal text into Braille - from the University of Manitoba. They obtained the print train - the \$5,400 component that punches the Braille dot formations - from IBM at the same time.

'To our knowledge,' Mr. Prat said, 'we are the only people in Canada who are producing Braille this way. The University of Manitoba is doing some work, but their system is different.'

The print train fits onto an IBM printer. 'It takes 10 to 12 hours to install the whole thing,' Mr. Prat said. 'After that it only takes five minutes to adjust the machine so you can use it. It prints about 300 to 400 lines a minute compared to about 700 to 900 on a normal printer.'

The man researchers credit with getting the program started and with keeping it going is James Bennett, a computer programmer at the university. He is also blind.

As a child, he went to a school for the blind. It was a good school, he said, but 'everything was done in blind ways. Everything was in its proper place. You get out of there and the world is entirely different.'

You get out of there and try to go to university and all of a sudden you are on your own. It's tough for a blind kid to go on.'

cont'd...

TRANSCRIPTS IN BRAILLE

Cont'd.

He worked for the Canadian National Institute for the Blind for a while but after he married and had two children, he found he couldn't support a family on his CNIB salary. He took a course designed to train the blind for computer programming.

He has been at the university for eight years now and things have worked out well, but he said it would have been easier if he had gone to a regular school as a child and lived at home with his parents instead of spending his childhood in a special school. Blind people have to cope with the sighted world sooner or later, he says, and they might as well start when they are children.

He believes all blind children should go to regular schools. 'It would be an education for both the blind children and the sighted children. It would teach blind children what they are up against. Blind can't go to regular schools now because there are not enough books available in Braille.'

It was that concern that led him to spend countless hours working with the computer. The result - the pile of heavy yellow paper that contains the Braille transcript of 1984 - sits in his office.

It is only a beginning, he says, but adds with conviction that in 10 years there will be enough Braille texts to allow all blind children to attend regular schools.

THE 9TH CANADIAN DECUS SYMPOSIUM

The Digital Equipment Computer Users Society (DECUS) held its 9th Canadian Symposium on January 28-30, 1976 in the Skyline Hotel, Toronto.

On Wednesday January 28th, DECUS presented a series of three simultaneous seminars - MICROPROCESSORS, RSTS/E and COS-350.

Thursday morning, keynote speeches were given by the DECUS President and the President of DIGITAL Canada. The sessions followed and continued through Thursday and Friday.

Speakers from across Canada and the United States dealt with topics such as DEC computers in laboratories and industry. The topics were varied and were for the most part interesting. In addition, there were four categories of presentation that overlapped several sessions.

Digital Equipment of Canada presented sessions on new DEC products. The sessions concentrated on the DECSYSTEM-2040, a medium scale system, combining features of the DECSYSTEM-10 and the PDP-11. This product was primarily aimed at the business data processing market and featured DBMS, COBOL, APL, etc. The hardware architecture seemed to be rather good and relatively up-to-date.

The DECSYSTEM-10 group held a CANLUG (DECSYSTEM-10 Users) meeting and sponsored a language session for the 10 featuring PASCAL, UWO Macro, SIMULA 67, XPL, POP-2, BCPL and BLISS-10.

cont'd...

CANADIAN DECUS SYMPOSIUM Cont'd.

The software development group from the University of Waterloo presented several sessions on software for the PDP-11 series. Running versions of WATFOR-11, WATBOL-11, WIDJIT and several similar offerings were demonstrated live on a portable PDP-11/10 with card reader, line printer and RK-05 disc.

There were several sessions on data base applications. In addition, DEC demonstrated a DESK with built-in PDP-8, dual floppy, VT-50 CRT screen and slow line printer, running COS-350 for business applications. The DESK was on casters and resembled a piece of office equipment. The same hardware is also available under OS-8 to run educational BASIC and FORTRAN programmes at a somewhat lower cost.

NOTE:

The Symposium Chairman was B.A. Hodson.
 DECUS CANADA
 DIGITAL EQUIPMENT COMPUTER USERS SOCIETY
 PO BOX 11500
 OTTAWA, ONTARIO
 K2H 8K8

John Kornatowski

BIORHYTHMS PACKAGE AVAILABLE

Biorhythms, a new area of research in science, deal with the natural flow of the human body's physical, intellectual and emotional cycles. They can be a useful tool in explaining 'ups' and 'downs' and in determining when different sorts of tasks should or should not be attempted.

A UTCC user has donated a program to the Computer Centre which printer plots these biorhythms for a specific birthdate. Although UTCC can obviously not support this program from a medical or physiological point of view, several staff members, including the author of this article, have tried the package and the results do seem to 'fit'.

To obtain an explanation of the biorhythm program and of how to interpret the output, simply code the following:

```
// EXEC WHATBIO
```

For an explanation of how to set up input data for the program, code:

```
// EXEC HOWBIO
```

To obtain the printer graph of the rhythms for a specific birthdate, code:

```
// EXEC BIOCAL
//SYSIN DD *
      input data
/*
```

where the input data is entered as specified in the HOWBIO procedure.

The author of the program is willing to consider modifications and expansions to the program if they are of a reasonable nature. Anyone with questions or comments on this package should call Herbert Kugel, 928-7286.

Herb Kugel

REPORT: CAMAC SURVEY 1974

In 1974, the European CAMAC Association circulated a questionnaire to all known CAMAC users and suppliers of CAMAC equipment. The survey has been compiled, interpreted and copies of the results have been sent to respondents. Since the data collected and analysed was to be of a general, indicative nature, the results of the survey seem a bit vague. Following is a summary.

- 600 CAMAC systems were identified in 29 countries
- 60% of CAMAC equipment was in national laboratories or universities
- 25% of CAMAC equipment was in industrial use
- the top five CAMAC countries were U.S.A., U.K., Germany FDR, Poland and Canada
- the total \$ value of CAMAC equipment around the world was 16 million dollars
- 2/3 of all CAMAC systems had a CAMAC component valued less than \$20,000
- about 1/2 the CAMAC installations are being used in non-nuclear applications
- there are a large number of CAMAC systems in the design and construction stages

- the hardware and software costs associated with the CAMAC systems are proportionately less than the accepted norm of 40%-- 50% for instrumentation interface systems.
- the main areas of CAMAC application include Medicine, Engineering, Industrial Product Processing, Astronomy, Meteorology, Geology, Agriculture, Oceanography, Zoology, Chemistry, Space Research, Energy, Communications, Education, Public Utilities and Nuclear Physics.

The report was prepared by Harry Bisby of the U.K. and released in early 1976.

John Kornatowski

NEW PUBLICATIONS IN UTCC TECHNICAL
REFERENCE CENTRE

- Berry-Rodghe, Godelieve L.M.;
Crawford, T.D.
Cocoa Manual
Berkshire, Science Research Council,
1973.
- Klecka, William F.; Nie, Norman H.;
Hull, C. Hadlai.
SPSS Primer
New York, McGraw-Hill, 1975.
- Proceedings of SHARE XLV.
New York, August 1975.
New York, Share, Inc., 1975.

cont'd...

NEW PUBLICATIONS IN TRC Cont'd.

Proceedings of the Sixth International APL Users Conference.

Anaheim, California, May 1974.

Reference copies of these publications are available in the TPC, SF128.

Also, users who have experienced difficulties using the IBM Utilities Manual may find the following text helpful:

Lane, Pon.

An Introduction to Utilities.
New York, Petrocelli, 1975.

Written for the beginner, the book describes the most common functions of the major Utilities for S/360 and S/370 computers, using OS, VS or VM Operating Systems. Also included are basic computer terminology, JCL and data management.

Although the TRC copy is intended for staff circulation only, users wishing to obtain their own copy may do so by contacting Marg Doherty, SF128, phone 928-8995.

Marg Doherty

PERSONNEL CHANGES

A late farewell is extended to Bernice Lawrence who left UTCC at the end of January. Leaving us this month is John Kyriazoglou. Our best wishes go with you both.

Dr. J.C. Wilson has moved to Student Record Services and Al Heyworth has taken on the responsibilities of Acting Director of UTCC. Al and Sue Annett will be relocating their office to the second floor of the Sanford Fleming Building.

New arrivals at the Centre are Mary Alkenbrack who has come to add a little brightness to the Information Office and Drew Millar who transferred to us from Library Automation Systems. Drew will now be working in our Systems area. Another arrival is Lillian Lau who will be joining us in Data Control.

Welcome to the Centre.

June Bridges

RECENT ACQUISITIONS IN THE
DEPARTMENT OF COMPUTER SCIENCE
LIBRARY

Association for Computing Machinery.
Graduate Assistantship Directory
in the Computer Sciences, 1976-77.
New York, ACM, 1975.

Brock, Gerald W.
The U.S. Computer Industry: A
Study of Market Power.
Cambridge, Mass., Ballinger, 1975.

Jensen, Kathleen, and Wirth, N.
PASCAL: User Manual and Report.
Berlin, Springer-Verlag, 1974.

Salton, Gerard.
Dynamic Information and Library
Processing.
Englewood Cliffs, N.J., Prentice-Hall,
1975.

REPORT ON THE COMPUTER USAGE BUDGET
AND CONTROL SYSTEM IN THE FACULTY
OF MANAGEMENT STUDIES AT THE
UNIVERSITY OF TORONTO

The Faculty of Management Studies at the University of Toronto has prepared a report describing the first year of operation of the control and allocation system for individuals using the University of Toronto Computer Centre's facilities under the Faculty's budget for computer usage. The 1974-75 fiscal year covered in the report is especially significant in that it is the first year that the University placed the control responsibility in 'real' dollars fully on the Colleges and Faculties.

The FMS computer usage budget and control system is based on the principle that each computer user receive and be responsible for his own particular share of the computer budget. For this to be possible every student and faculty member of FMS requiring computer facilities must hold a personal computer account in the estimated dollar amount of his computing needs. To accomplish this, UTCC provided a computer accounting system made up of accounts and codes structured on three levels. Operating interdependently of each other, these consist of the Blanket Purchase Order Account, the Customer Account and the Service Access Code. UTCC provided budget controls at all of these levels by allowing for dollar usage limits on SACs and inactivating CANs that go into overdraft. (There is currently a 24 to 48 hour time lag on these features).

The most significant aspect of the FMS system is that it places the onus on the FMS computer user to administer his own individual CAN. Should the FMS user exceed the budget of his CAN, he will be held personally responsible for the dollar amount of the over-run. In the case of a student user, this situation is treated in exactly the same manner as any other unpaid fees to the University of Toronto, and final marks will be withheld. In addition to administering his own budget, each FMS user is expected to insure the secrecy of his own code by making use of the code security features and monthly usage reports provided by UTCC.

Copies of the FMS report are available at the Information Office SF128, 928-4990, 4991.

DO YOU KNOW THESE FACTS ABOUT U.T.C.C.'s ADMINISTRATIVE TERMINAL SYSTEM?

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- Eliminates problem of lost records
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- Provides better quality than photocopying
- Easy to learn
- Rewarding to use
- Flexible in its applications

. . . and much more!! . . .

INTERESTED? CALL 928-6877

We want to talk to YOU!

MORE USER ONLINE SPACE

Another 3330 disk has been added to the pool of USER online disks. This is an increase of 100 megabytes or 18% more than previously available. UTCC anticipates that this will take the pressure of what had recently become an overly contended resource. At the same time, UTCC changed the generic USER to be equivalent to USER3330. This means that customers who wish to allocate on the 2314 disk packs specifically should use USER2314 in the future. Users who wish further information on either of these points, may contact Derry Cox at 928-7092.

Derry Cox

TSO REFERENCE CARD

A pocket-size TSO Reference Card is now available. The reference card describes LOGON/LOGOFF procedures, entering commands, dataset management and dataset allocation, and includes a summary of TSO commands.

A description of Interactive Applications with TSO, Remote Job Entry with TSO, Command Procedure (CLIST) -- EXEC File, the IBM Editor and the HELP command is also provided.

TSO Reference Cards may be obtained free-of-charge from the Information Office, SF128 and from the Computing Co-ordinators.

Janet Campbell

TSO TOPICS

UTCC has recently received a revised version of the IBM TSO Utilities, LIST, COPY, MERGE and FORMAT. This revision corrects about fifteen problems, some of which have been reported by UTCC users. Remember that while FORMAT is available, NSCRIPT is a superior product and should be used in preference to FORMAT.

The revised versions of these programs will be installed in the TSO system on March 15, 1976. Users with problems should contact Ian Darwin, 928-7318.

Ian Darwin

SPEAKEASY SESSIONS -- LAMBDA REVISITED

UTCC has received the distribution tape containing the LAMBDA version of SPEAKEASY. This version has been installed to replace the TEST-45 LAMBDA. LAMBDA will become the default level on Sunday, March 28, 1976. A new edition of the USERBOOK module 3.3SPEAKEASY, corresponding to LAMBDA, is being prepared and should be available around mid-March.

The major changes in LAMBDA are corrections to KAPPA errors, enhancements to statistical and calculus functions, and enhancements in processing 'text' objects.

cont'd...

SPEAKEASY SESSIONS

Cont'd.

KAPPA will remain available for sometime, but will eventually be moved offline (e.g. a disk mount will be required to access it). Users who continue using the older KAPPA version after LAMBDA is the default may code LEVEL=KAPPA or LEVEL(KAPPA) on the EXEC statement or command. To obtain LAMBDA before it becomes the default, code LAMBDA (note 5 letters only). LEVEL need only be coded in rare circumstances, since most users should be able to use the default version. Also, many KAPPA bugs are fixed in LAMBDA, and therefore its use is encouraged.

Users who encounter conversion problems or apparent bugs in LAMBDA are asked to contact Ian Darwin at 928-7318, 49 St. George, Room 303. A list of known bugs can be obtained by DOCUMENT BUGS under LAMBDA.

Ian Darwin

Concurrent with these changes to SPSS Version 6, Version 6 of SPSS will be the default version accessed by our 3 in-house catalogued procedures i.e. users must now specify VERSION=V5 on their EXEC card to access Version 5 of SPSS. (The Version 5 SPSS newsletter has advertised this change for the past two weeks.)

Finally, SPSSM, the 1000 variable version of SPSS, is available for general use (SPSSM or SPSS maxiversion is described on page 576 of the SPSS manual, Second Edition.) To access this version of SPSS, the EXEC card used must be one of the following:

```
// EXEC SPSS,VERSION=V102
// EXEC SPSSDS,VERSION=V102
// EXEC SPSSSTP,VERSION=V102
```

This version of SPSSM has also been updated to fix bugs found in the earlier system.

Len PrepasSPSS CHANGES AND ANNOUNCEMENTS

Recently, the National Opinion Research Center based at the University of Chicago, updated Version 6 of SPSS to create SPSS Version 6.02. Several bugs were fixed in this update. A detailed listing of these are found in the SPSS newsletter #9, January 1976. Copies of the newsletter can be found with the Computing Coordinators.

This update has now been applied to Version 6 of SPSS, accessed at the University of Toronto Computer Centre and will very shortly be pointed to by our catalogued procedures.

GPSS V

UTCC has been approached by a current user of the General Purpose System Simulator package, GPSS/360, to obtain the program product version of this package, GPSS V from IBM. This new version contains several enhancements. Briefly:

- Standard OS files can be handled directly
- a standard interface has been provided with PL/I programs (enhancing the HELP BLOCK feature)

cont'd...

GPSS V

Cont'd.

- problem capacity has been increased
- the language has been generalized and the strict card column format rules relaxed
- the internals are standardized and addressable to user written ASSEMBLER programs.

Users who are interested in having GPSS V made available on our system, should contact their Marketing Representative or John Roth at 928-8823.

John Roth

ATTENTION FORTRAN USERS

This article is intended to inform or remind FORTRAN users of some options available which can make programming easier and/or eliminate some detail work, allowing more time to concentrate on solving the actual problem. These options are SPEAKEASY, List-directed I/O, and two DEBUG packages. The first three options are available in batch on the General Purpose Job Stream and interactively on the Time Sharing Option system (TSO); one DEBUG package can be used only on TSO. Additionally, the DEBUG packages are available with G1 level FORTRAN only, not with H level. None are currently available on the High Speed Job Stream.

SPEAKEASY

SPEAKEASY can be thought of as a 'super-FORTRAN'. Its syntax is similar (but not identical) to that of FORTRAN, with extensions such as the ability to operate on all members of an array by referring to the name alone, multiple statements per line, built-in array and matrix operations, etc. For example:

```
x=1,2,3,7.6, 9, 11.55
y=x*x+3
print Y
      Y (A 6 COMPONENT ARRAY)
      4   7  12  60.76  84  136.4
```

The first line defines X as a 6-element array with the values given. The second line defines Y as another element array with each element equal to the corresponding member of X squared plus 3. Explicit definition is seldom needed but is available. Also available are character datatypes (*1 and *8), stored data items and programs, and a large library of 'built in' functions in physical and social sciences, statistics, mathematics, physics, etc. Format statements are not needed (input is format-free and output is automatically printed in readable format) but are available for disk or tape I/O and for special applications.

Secondly, an existing FORTRAN program (G or H level) can be converted to a SPEAKEASY function in an hour or so. Input arguments are supplied along with structural information, and much error checking is done automatically by the SPEAKEASY processor.

cont'd...

ATTENTION FORTRAN USERS

Cont'd.

SPEAKEASY is available interactively and in batch, usually with no changes to the input.

SPEAKEASY is documented in the USERBOOK modules 3.3SPEAKEASY, 3.3SPEAKEASY.INTER and 3.3SPEAKEASY.LINKULES. Users who are interested in SPEAKEASY, may contact Ian Darwin, 928-7318.

List-Directed Input/Output

Also called format-free I/O, this feature eliminates the need for format statements when the data format is not important. (Perhaps the data will be input from cards or from a TSO terminal, or a quick printout of results is wanted.) This discussion refers to the IBM FORTRAN G1/HX list I/O, not to the WATFIV feature. Format-free or List I/O must not be confused with 'unformatted' I/O, which is a 'binary' or machine-format dump of variables. A single example will show how list I/O is used.

```

READ(5,*) A,B,C
D=(A+B+C)/3
WRITE(6,*)D
STOP
END

```

```

G1 COMPILER ENTERED
SOURCE ANALYZED
NO DIAGNOSTICS GENERATED
?      (question prompt appears
        on interactive version)
user types 7,9.0,11.000
9.00000000

```

LIST-directed I/O is discussed in detail in an appendix to the FORTRAN IV Language reference, GC28-6515. This includes information on data types and conversions.

Interactive Debug and Debug Subcheck

These two facilities provide a wide range of debugging features for G1-level FORTRAN. Debug Subcheck is part of the FORTRAN G1 DEBUG package. It provides checking of all subscripted array references. Subscript reference errors are a very common cause of 0c1/0c4/0c5 ABENDs in FORTRAN programs. Other debug features include statement flow tracing, monitoring of selected variables and tracing of subprogram flow. These features are available both through batch and interactively. Interactive Debug is a separate product from IBM, and as the name implies, is only available interactively (on TSO). It provides control over execution flow from the terminal, monitoring of values, flow tracing, variable examination and modification, etc.

Interactive Debug requires no change to the source program and provides more features than does the Debug package, but is available only under TSO. The TEST option of the compiler must be used, e.g.

```
FORT dsname TEST
```

It is then invoked as:

```
TESTFORT dsname
```

Full details are contained in the IBM FORTRAN Interactive Debug Terminal User's Guide, SC28-6885. Interactive Debug could conceivably be used with FORTRAN H, but the H-level compilers do not support the TEST option. There is a TEST command which provides similar features at an assembly-language level, if the H level must be used for some other reason.

cont'd...

ATTENTION FORTRAN USERS

Cont'd.

Debug Subcheck requires the insertion of statements within the source code before compilation; these should usually be removed before the program is put into production. The Debug package is described in FORTRAN IV Language reference, GC28-6515.

Users with queries are invited to contact Ian Darwin, 928-7318, Herb Kugel 928-7286 or Kin Fong 928-4924. Further information on debugging is contained in the USERBOOK module 3.3DEBUG. Users with specific problems should contact the Computing Co-ordinator.

Ian Darwin

SOFTWARE	USES (#JOBSTEPS) (%)	
MARKEAM	43	0
MARKIV	345	1
MPS/MPSX	58	0
OSUTIL	234	0
PAPERTAP	95	0
PL/I	1,595	6
RPG	65	0
SAS	11	0
SERVAID	249	1
SNOBOL	1,069	4
SORTMEFG	1,115	4
SPEAKEZ	61	0
SPSS	1,776	7
SSP/BMDD	356	1
TAPEUTIL	349	1
TIPRS	4	0
TSO	40	0
XFR	366	1
TOTAL	24,175	

GPJS -- SOFTWARE USAGE STATISTICSKin Fong

The following chart summarizes the software usage per classified procedure and program names for the General Purpose Job Stream -- Jan. 5, 1976/Feb. 2, 1976.

SOFTWARE	USES (#JOBSTEPS) (%)	
ALGOL	16	0
APLSV	22	0
ASM	333	1
COBOL	340	1
CSMP	47	0
DATATEXT	74	0
DEBUGUTIL	6	0
DISKUTIL	2,064	8
DSUTIL	4,132	17
DYNAMO	42	0
FORTTRAN	7,451	30
GPSS	27	0
GRAPHICS	1,630	6
JCLUTIL	134	0
LISP	26	0

S/370-165-II RELIABILITY

The reliability statistics for January indicate an uptime percentage of 99.1 while the average number of unscheduled IPL's per day reached 0.43. The number of scheduled hours of production for January totalled 479.

MONTHLY COMPARATIVE FIGURES

MONTH	% UPTIME	UNSCHED. IPLs/DAY
Jan/75	95.7	2.77
Feb/75	96.0	1.14
Mar/75	96.7	1.10
Apr/75	98.6	0.70
May/75	99.4	0.60
Jun/75	97.4	0.79
Jul/75	95.2	1.23
Aug/75	97.6	0.83

cont'd.

S/370-165-II RELIABILITY Cont'd.

Sep/75	99.1	0.87
Oct/75	97.2	1.13
Nov/75	95.8	1.63
Dec/75	99.4	0.48
Jan/76	99.1	0.43

The percentage breakdown of total system downtime for January was:

Hardware: 151 minutes (56.6%)
Software: 18 minutes (6.7%)
Other : 98 minutes (36.7%)

The major events contributing to these downtime totals were as follows:

January 11 - 84 minutes down

- a. All time attributed to corrective maintenance on the 2880 - block multiplexor channel. IBM had applied some engineering changes on the previous shift which resulted in a faulty cable connection.

January 17 - 20 minutes down

- a. All time charged to STC tape control unit which was hanging the system during IPL. It was necessary to power the unit down and up to circumvent the problem.

January 19 - 93 minutes down

- a. 15 minutes due to a power check on the S370-165-II.
- b. 78 minutes when water was found to be dripping on a "power distribution panel" in the basement. When the panel was powered off, it dropped the active motor generator. 78 minutes was required to clean up the water.

Paul Scarborough

EXECUTIVE REPORT ON S4310 FOR JAN 76

DAY	REFL	DWTIME	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
=====																							
T	1	(CENTER CLOSED)																					
F	2	0																					
S	3	0																					
S	4	0																					
M	5	0																					
C	6	0																					
M	7	0																					
F	8	0																					
F	9	1																					
S	10	0																					
S	11	1																					
M	12	2																					
T	13	2																					
M	14	0																					
F	15	0																					
F	16	0																					
S	17	2																					
S	18	0																					
M	19	2																					
T	20	1																					
M	21	1																					
T	22	0																					
F	23	0																					
S	24	0																					
S	25	0																					
M	26	0																					
T	27	0																					
T	28	1																					
F	29	0																					
F	30	0																					
S	31	0																					

LEGEND : ONE □ = ONE UNSCHED. IPL
ONE * = ONE MINUTE OF DOWNTIME

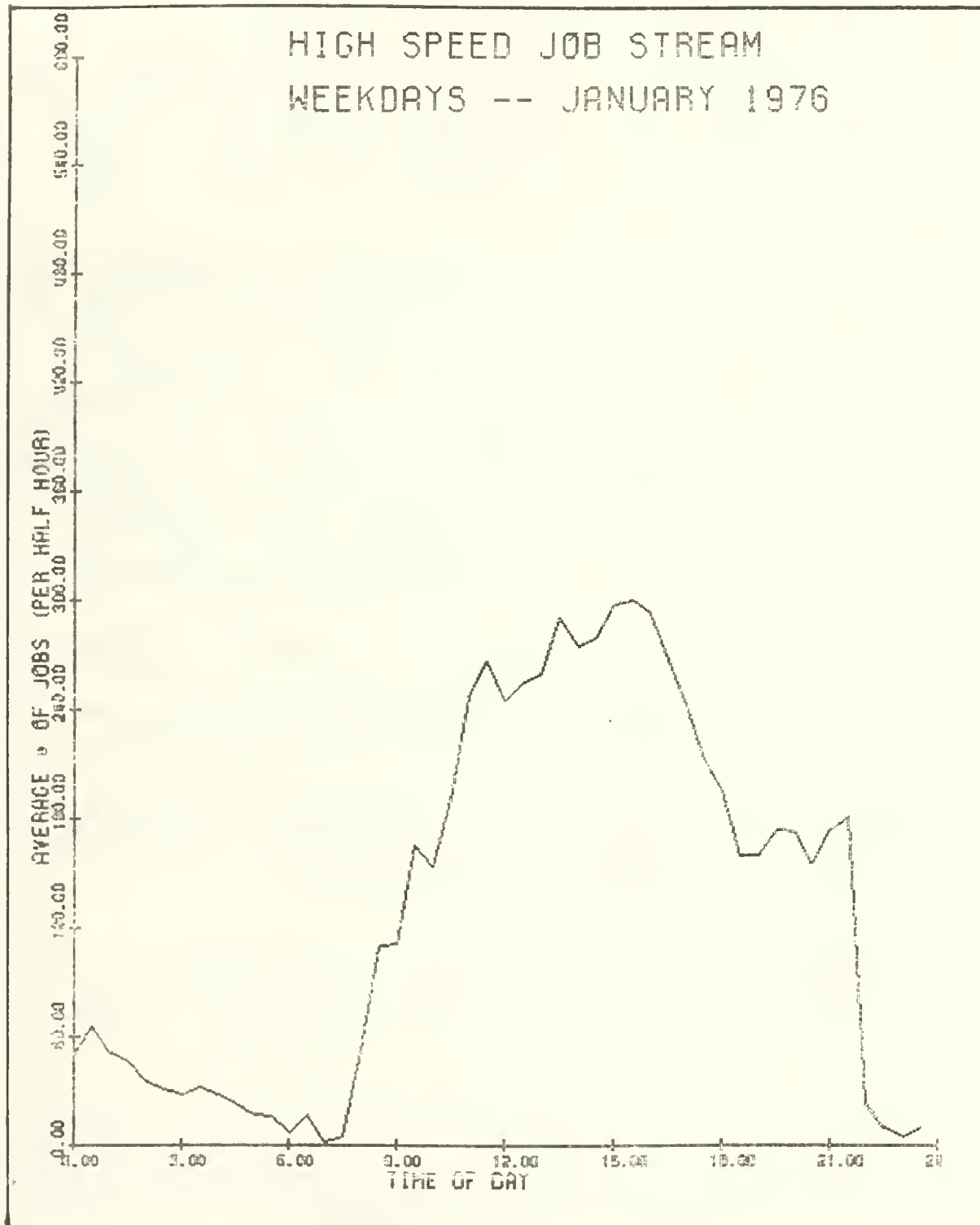
TOTAL SCHEDULED HOURS OF PRODUCTION : 479
TOTAL DOWNTIME (MIN) : 267 . AVG/DAY : 8.90 . AVG/PROD HOUR : 0.28
TOTAL UNSCHED. IPL'S : 13 . AVG/DAY : 0.43
DOWNTIME RATE IS : 0.93 PERCENT OF SCHEDULED PRODUCTION HOURS

HSJS MONTHLY STATISTICS

During the month of January 1976, 148,510 jobs were processed compared with 87,843 for the previous year, an increase of 69%.

The following charts summarize the HSJS activity for the month of January. The graph represents the average number of jobs processed during each half hour period of the day.

Mark Tapia



Remote Job Entry

A UTCC-DEVELOPED
RJE FACILITY HAS
BEEN ADDED TO OUR
LIST OF SERVICES.

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COMPUTING MORE CON-
VENIENTLY THROUGH RJE.

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OR 928-6877

INTERACTIVE SYSTEMS RELIABILITY

The uptimes achieved for the month of January for each of APL and ATS were 97.5% and 97.8% of scheduled operation, respectively. The number of scheduled hours of operation during the month of January totalled 460, and the number of unscheduled IPL's per day was 0.23. In addition to the scheduled time, Interactive Services were available for approximately 151 hours of unattended weekend operation.

The percentage breakdown of total S/360 downtime for January was: Hardware - 455 minutes (76.34%); Software - 116 minutes (19.47%); Other - 26 minutes (4.19%). Eight unscheduled IPL's were required as a result of the failures. The major events contributing to downtime were as follows:

Jan. 4: A late start resulted from 2314 disc drive being selected all the time due to a bad card which was subsequently replaced by IBM customer engineer.

Jan. 7: CPU entered into solid system state indicating channel control busy. Short time later the problem was determined to be in the disc control unit which was left in STOP CHECK mode during weekend corrective maintenance by IBM customer engineer. Also, a disastrous error on SPOOL1 necessitated a COLD format of HASP queue.

Jan. 25: A total of 272 minutes and 3 IPL's were attributed to various disc problems. IBM corrective maintenance was required but the problem disappeared after one of the discs was moved to alternate drive.

The following table summarizes the time lost out of scheduled hours of production due to system failures for each of the systems.

Kam Jain

DATE	DOWNTIME (mins)		REASON
	APL	ATS	
Sun. Jan. 4	237	167	** Bad card in 2314 disc drive (HARDWARE)
Tue. Jan. 6	26	27	* 3705 disabled during maintenance (OTHER)
Wed. Jan. 7	16	16	*CPU and channel hung - disc control unit on stop check mode (HARDWARE)
"	89	89	Disastrous error on Spool 1 (SOFTWARE)
Sun. Jan. 25	272	272	*** Solid system - Disc problems (HARDWARE)
Tue. Jan. 27	27	27	* Out of SOA (SOFTWARE)
Thu. Jan. 29	-	6	Program error (SOFTWARE)
Total	667	609	*IPL Required
System Failures January 1 - 31, 1976			

DO YOU PRODUCE:

- CALENDARS
- TECHNICAL PUBLICATIONS
- COURSE DESCRIPTIONS
- OFFICE PROCEDURES
- INSTRUCTION MANUALS
- DIRECTORIES
- MAINTENANCE MANUALS
- INVENTORY LISTS
- LEGAL DOCUMENTATION
- CORRESPONDENCE
- MAILING LABELS
- CLASS LISTS
- READING LISTS

WHY NOT USE COMPUTER FACILITIES?

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U.OF T. COMPUTER CENTER
MARKETING SERVICES
928-6877

IF YOU CAN TYPE IT'S EASY!!

UTCC COMPUTER EQUIPMENTSYSTEM/370 MODEL 165-II

- located in SF103/105/112
- provides General Purpose Job Stream, High Speed Job Stream, APL, SV and TSO services
- 3072K bytes of memory
- 1 drum (2301)
- 13 disk drives (3330)
- 8 disk drives (2314)
- 7 magnetic tape drives (5 9-track and 2 7-track)
- 6 display consoles
- 6 printers
- 5 card readers
- 1 card punch
- 8 remote batch terminals
- 1 paper tape reader
- Calcomp plotters (11" and 30")
- Gould plotter (11")
- OS/MVT with HASP

SYSTEM/360 MODEL 65

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 1536K bytes of core
- 24 disk drives (2314)
- 3 9-track magnetic tape drives
- 1 printer
- 1 card reader
- 1 card punch
- 140 typewriter terminals
- OS/MVT with APL and ATS

7094 II

- located in Room 1203 Burton Tower
- 32K words of core
- 1 disk
- 8 magnetic tape drives
- input/output via a 1401 computer

COMPUTER RESEARCH FACILITY

- located in SF207
- DEC GT44 Systems with
 - 1 PDP-11/40 CPU
 - 2 9-track dual density tape drives
 - 1 1000 cpm card reader
 - VT17 graphics display unit
 - 1 lab. peripheral system with A/D & D/A
 - 1 CVI 260 Video Bandwidth Compressor
- DEC GT40 System with
 - 1 PDP-11/10 CPU
 - 1 2314 tape disk drive
 - 1 VT12 graphic display unit
 - 9-track/800 BPI tape drive
 - 1 Calcomp microfilm plotter

UTCC DIRECTORY

<u>ROOM</u>	<u>PHONE</u> 928-
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DIRECTOR

John C. Wilson	SF143	6496
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ASSOCIATE DIRECTOR

Al Heworth	SF116	4936
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ADMINISTRATION MANAGER

Anthony Pieterse	SF137	8948
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INFORMATION OFFICE

General Inquiries	SF128	4990 or 4991
Don Gibson	SF128A	

MANAGER, SERVICES

Stan Yaci	SG200	7331
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SUPERVISOR, MARKETING SERVICES

Dave Scobie	SG201	6877
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TERMINAL CO-ORDINATORS

Sandford Fleming Terminal		
Mark Tapia	SF125	7109
Program Advisors	SF117	8599

Erindale		
Clem DiPlacido		828-5311

Scarborough		
Raymond Shen		284-3173

Arts and Science		
Dave Tritchler	SS2104	6509

New Physics		
John Roth	NP1202	8823

SUPERVISOR, APPLICATIONS SUPPORT

Herb Kugel	SG304	7286
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MANAGER, OPERATIONS

Derry Cox	SF113	7092
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SUPERVISORS, OPERATIONS

Paul Scarborough (S/370-165-II)	SF114	6220
Kam Jain (S/360-65)	NP333	7374
Dave Wone (S/370-155)		6864

MANAGER, SYSTEMS

Rein Mikkor	SF113	5058
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SYSTEM HARDWARE SUPERVISOR

Eugene Siciunas	SF113	4967
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SUPERVISOR, 7094 SERVICES

William Beasley	NP1207	7094
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MANAGER, COMPUTER RESEARCH FACILITY

Dennis Smith	SF214B	4800
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LAB CO-ORDINATOR (CRF)

Krishna Patnaik	SF207	8858
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CONTRACT PROGRAMMING

Dave Scobie	SG201	6877
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ACCOUNTS

Ann DeFazio	SF139	7148
Wynona Bardgett	SF139	8702

ACCESS CODES

Yvonne Bowen	SF139	8703
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ASSISTANT MANAGER, INFORMATION SYSTEMS TERMINAL

George Milo		5040
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NOTE:

SF = Sandford Fleming
 SG = 49 St. George
 NP = McLennan Physical (New Physics)
 SS = Sydney Smith

JOB AND SYSTEM STATUS QUERIES

SYSTEM/370, TSO	7373
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ATS/APL	6234
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7094	7094
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2741 TERMINAL MALFUNCTIONS	7107
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029 KEYPUNCH MALFUNCTIONS	6465
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SERVICES

	<u>DIAL-UP</u>	<u>ADVICE</u>
APL - 2741	7200	6710
APL(ASCII)	7200	7107
APL SV - 2741	7230	6710
APL SV - TTY	7447	6710
ATS	7100	7107
TSO - 2741	7303	8599
TSO - TTY (10 cps)	7300	8599
TSO - TTY (30 cps)	7386	8599
DATATALK	6710	6710



**THROW AWAY YOUR
CORRECTION FLUID!**

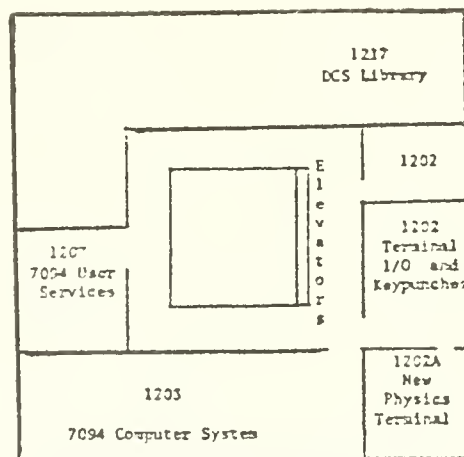
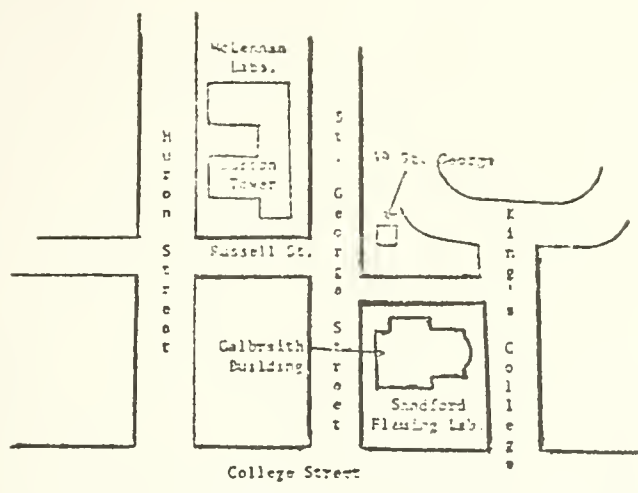
USE 'A.T.S.'

ADMINISTRATIVE TERMINAL SYSTEM

CALL UTCC MARKETING SERVICES AT 928-6877

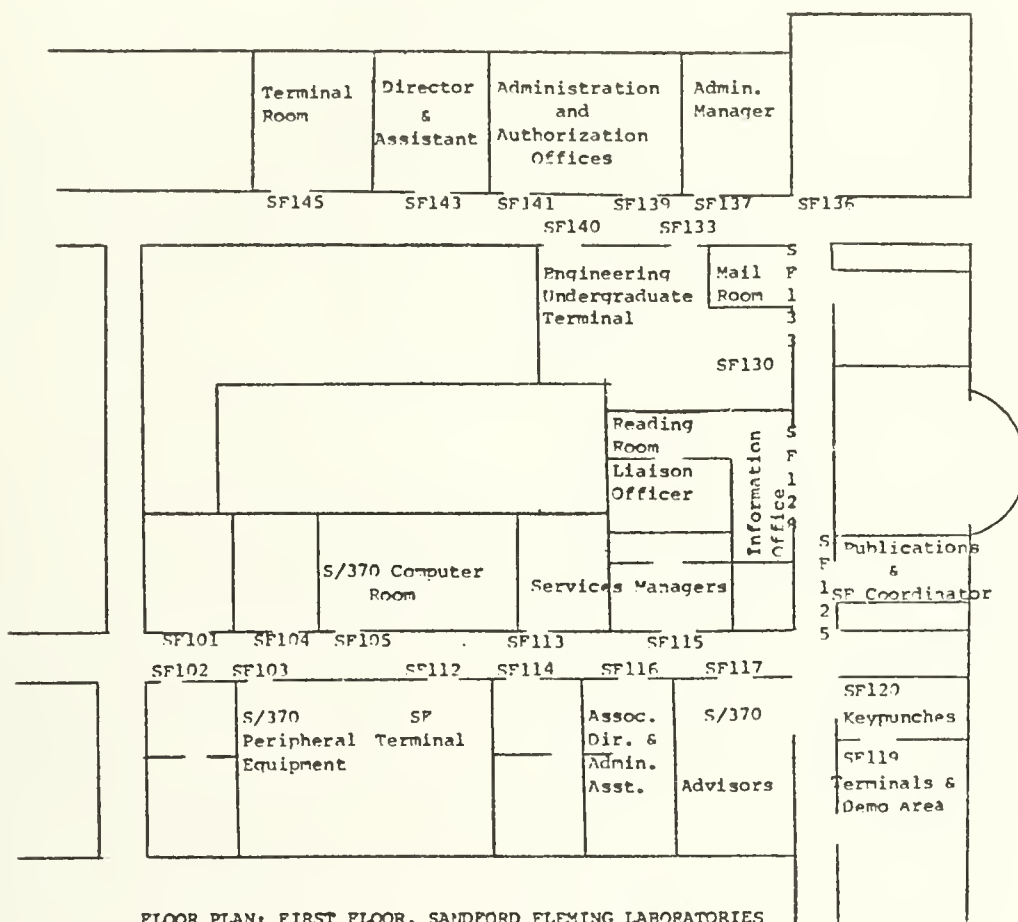
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1 DATA LOGIC MARK IV SYSTEMS DESIGN UTCC NON-CREDIT COURSE - INTRO TO JCL 4-6 PM	2	3 COURSE (TORONTO) INTRO TO JCL 4-6 PM	4	5 INTRO TO JCL 4-6 PM	6
7	8 UTCC NON-CREDIT COURSE - INTRO TO APL 4-6 PM	9	10 INTRO TO APL 3-5 PM	11	12 INTRO TO APL 3-5 PM	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	Type faster with A.T.S. Call Marketing Services 928 6877		

March 1976

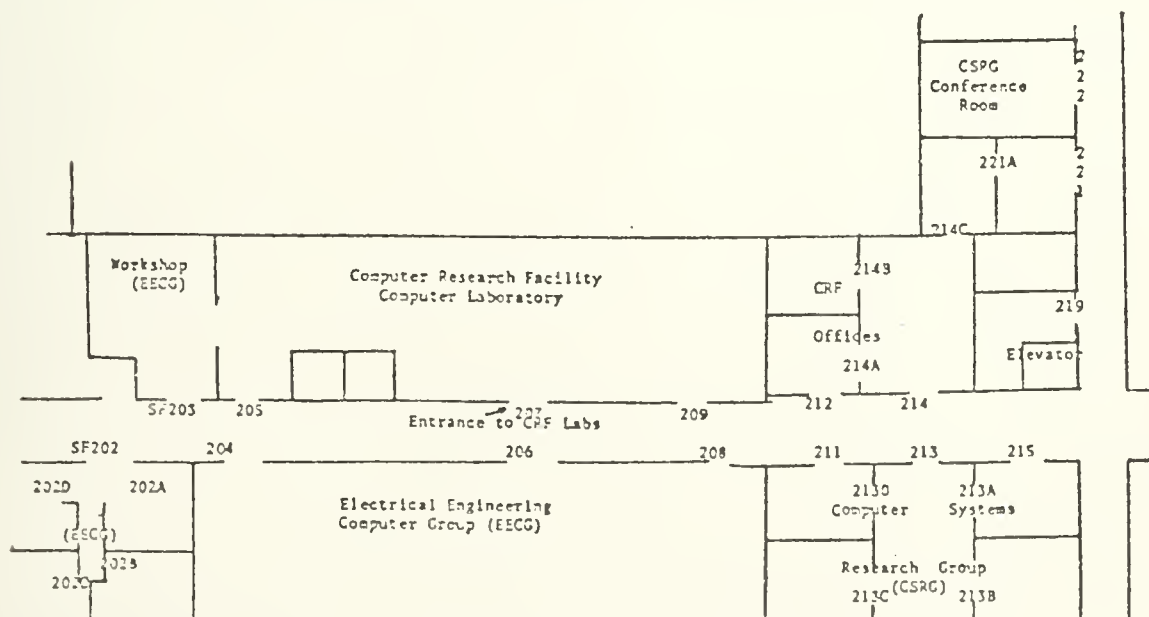


FLOOR PLAN: TWELFTH FLOOR, BURTON TOWER

UNIVERSITY OF TORONTO COMPUTER CENTRE



FLOOR PLAN: FIRST FLOOR, SANDFORD FLEMING LABORATORIES



FLOOR PLAN: SECOND FLOOR, SANDFORD FLEMING LABORATORIES

UNIVERSITY OF TORONTO
COMPUTER CENTRE,
TORONTO, CANADA,